

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A continuously variable transmission (1) for motor vehicles, ~~provided with~~ comprising:

a drive belt (10) comprising substantially axially oriented running surfaces (16) arranged on either side of the drive belt (10);

a primary pulley (2) comprised of two conical pulley disks (21, 22), each pulley disk of the primary pulley including a contact surface contacting the side of the drive belt; and

a secondary pulley (3) comprised of two conical pulley disks (31, 32), each pulley disk of the primary pulley including a contact surface contacting the side of the drive belt, wherein,
~~around which there is arranged a~~

the drive belt (10) is wound around the primary pulley and the second pulley contacting the respective contact surfaces of the pulley disks of the primary and second pulleys, which,

at least when the transmission (1) is operating, the drive belt is clamped, via substantially the axially oriented running surfaces (16) arranged on either side of the drive belt (10), i) between the two conical pulley disks (21, 22) of the

primary pulley (2) with a primary clamping force (K_p) and
ii) between the two conical pulley disks (31, 32) of the
secondary pulley (3) with a secondary clamping force (K_s) ~~in~~
~~order to be able to transmit a supplied torque (T_p) with the aid~~
of frictional forces from the primary pulley (2) to the secondary
pulley (3),

a curvature of the contact surface (40) of at least one
(43) of the pulley disk disks (21, 22, 31, 32), in an unloaded
state, is convexedly curved facing (44) with respect to the drive
belt (10) ~~being provided, at least as seen in a cross section of~~
said one pulley disk, thereof that is

the curvature, oriented perpendicular to a tangential
direction, ~~with a curvature, with the result that~~ in said cross
section, defines a contact angle (λ) between a tangent line (41)
on the contact surface (40) of the one pulley disk (43) and a
radial direction (42),

the contact angle (λ) varies in relation to a radial
position (R_p , R_s) of a contact point between the respective
running surface (16) of the drive belt (10) and the contact
surface (40), ~~varies between~~ the contact angle (λ) being at a
lowest value at the location of a radially innermost position on
the contact surface (40) and the contact angle (λ) being at a
highest value at ~~the~~ a location of a radially outermost position
on the contact surface (40), ~~and~~

a transmission ratio (R_s/R_p) of the transmission (1)

~~being~~ is defined as the quotient between the radial position (R_s) for the secondary pulley (3) and the radial position (R_p) for the primary pulley (2), and

~~characterized in that as a result of~~

the contact angle (λ) being adapted in relation to said radial position (R_p , R_s) and provides that at least in the largest transmission ratio (R_s/R_p), ~~i.e. low~~, a clamping force ratio ($K_p K_s$) between the primary clamping force (K_p) and the secondary clamping force (K_s) has a value in the range between 1 and the clamping force ratio ($K_p K_s$) in the smallest transmission ratio ~~ratio~~ (R_s/R_p), ~~i.e. Overdrive~~.

2. (currently amended) The continuously variable transmission (1) as claimed in claim 1, wherein ~~characterized in that as a result of~~ the contact angle (λ) ~~being~~ adapted in relation to said radial position (R_p , R_s) and provides that, in the smallest transmission ratio, ~~Overdrive~~, the clamping force ratio ($K_p K_s$) has a value in the range between 1.8 and the clamping force ratio ($K_p K_s$) in ~~Low~~ the largest transmission ratio (R_s/R_p).

3. (currently amended) The continuously variable transmission (1) as claimed in claim 1, wherein ~~characterized in that as result of~~ the contact angle (λ) being adapted in relation to said radial position (R_p , R_s) ~~, and~~ provides that in all

transmission ratios (R_s/R_p) of the transmission (1), the clamping force ratio (K_pK_s) has a value in the range between 1.2 and 1.67 and preferably in the range between 1.3 in Low and 1.5 in Overdrive.

4. (currently amended) The continuously variable transmission (1) as claimed in claim 1, wherein ~~characterized in that~~ a safety factor (S_f) between a minimum primary or secondary clamping force (K_p ; K_s) required for the transmission of the torque (T_p) supplied in the respective transmission ratio (R_s/R_p) mentioned and a desired primary or secondary clamping force (K_{pDV} ; K_{sDV}) is approximately 1.3.

5. (currently amended) The continuously variable transmission (1) as claimed in claim 1, wherein ~~characterized in that~~, at least for a constant transmission ratio (R_s/R_p), a desired secondary clamping force (K_{sDV}) is determined by multiplying a minimum secondary clamping force (K_s) required for the transmission of the supplied torque (T_p) by a safety factor of greater than 1, and ~~in that~~ a desired primary clamping force (K_{pDV}) is determined by multiplying said desired secondary clamping force (K_{sDV}) by the clamping force ratio (K_pK_s) in said constant transmission ratio (R_s/R_p).

6. (currently amended) The continuously variable

transmission (1) as claimed in [[claim 1]], wherein characterized
~~in that~~ the contact angle (λ) in relation to said radial position
(Rp, Rs) is at least substantially equal for the two pulley disks
(21, 22; 31, 32) of a respective pulley (2, 3).

7. (currently amended) The continuously variable
transmission (1) as claimed in claim 1, wherein characterized in
~~that~~ a lowest value of the contact angle (λ) for the pulley disks
(21, 22, 31, 32) in relation to said radial position (Rp, Rs) is
at least substantially equal for the pulley disks (21, 22, 31,
32) of the two pulleys (2; 3).

8. (currently amended) The continuously variable
transmission (1) as claimed in claim 1, wherein characterized in
~~that~~ a highest value for the contact angle (λ) for the pulley
disks in relation to said radial position (Rp, Rs) is higher for
the pulley disks (21, 22) of the primary pulley (2) than the
corresponding value for the contact angle (λ) for the pulley
disks (31, 32) of the secondary pulley (3).

9. (currently amended) The continuously variable
transmission (1) as claimed in claim 1, wherein characterized in
~~that~~ the drive belt (10) ~~is of what is known as the push belt~~
~~type and~~ is provided with at least one set of rings (12) and a
large number of transverse elements (11), which can move along

the set of rings (12) in the circumferential direction thereof and are provided with the running surfaces (16).

10. (currently amended) The continuously variable transmission (1) as claimed in claim 1, wherein ~~characterized in that~~ the contact angle (λ) in relation to said radial position (R_p , R_s) corresponds for the two pulley disks (21, 22; 31, 32) of a respective pulley (2, 3), and ~~in that~~, at least in the smallest transmission ratio (R_s/R_p) of the transmission (1), a ratio between the contact angle (λ) for the primary pulley (λ_p) and the contact angle (λ) for the secondary pulley (λ_s) satisfies the condition that:

$$1 < \frac{\tan(\lambda_p)}{\tan(\lambda_s)} \leq 1.6$$

11. (currently amended) The continuously variable transmission (1) as claimed in claim 10, wherein ~~characterized in that~~, at least in the largest transmission ratio (R_s/R_p) of the transmission (1), the ratio between said contact angles (λ_p , λ_s) satisfies the condition that:

$$0.6 < \frac{\tan(\lambda_p)}{\tan(\lambda_s)} \leq 1$$

12. (currently amended) The continuously variable transmission (1) as claimed in claim 10, wherein ~~characterized in~~

~~that~~ for both the primary pulley (2) and the secondary pulley (3) the lowest value for the contact angle (λ) is approximately 7 degrees.

13. (currently amended) The continuously variable transmission (1) as claimed in claim ~~[[10]]~~ 12, wherein ~~characterized in that~~ for the primary pulley (2) the highest value for the contact angle (λ) is approximately 10 degrees, and ~~in that the~~ for the secondary pulley (3) the highest value for the contact angle (λ) is approximately 9 degrees.

14. (currently amended) A continuously variable transmission (1) for motor vehicles, comprising:

~~provided with~~ a primary pulley (2) with two conical pulley disks (21, 22);

~~and~~ a secondary pulley (3) with two conical pulley disks (31, 32),

~~around which there is arranged~~ a drive belt (10) having substantially axially oriented running surfaces (16) arranged on either side of the drive belt (10),

the drive belt arranged around the primary and second pulleys and which, at least when the transmission (1) is operating, is clamped, via substantially the axially oriented running surfaces (16) ~~arranged on either side of the drive belt (10),~~ between the two conical pulley disks (21, 22) of the

primary pulley (2) with a primary clamping force (K_p) and between the two conical pulley disks (31, 32) of the secondary pulley (3) with a secondary clamping force (K_s) ~~in order to be able to~~ transmit a supplied torque (T_p) with the aid of frictional forces from the primary pulley (2) to the secondary pulley (3) ~~characterized in that,~~

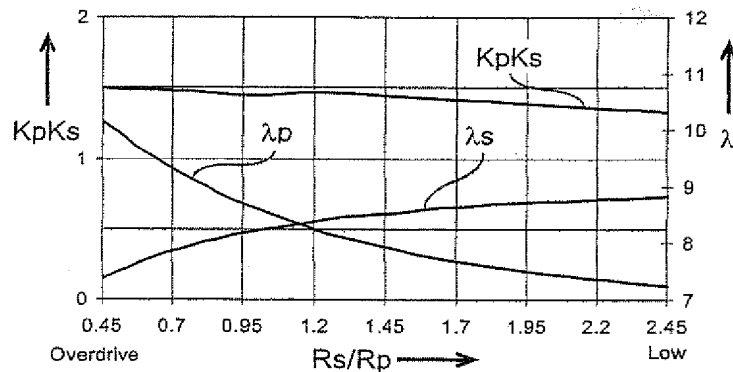
wherein, at least when the transmission (1) is operating, a coefficient of friction between the primary pulley (2) and the drive belt (10) in relation to a radial position (R_p) of a contact point between therebetween ~~them~~ has a lowest value at the location of a radially outermost position of said contact point.

15. (currently amended) The continuously variable transmission (1) as claimed in claim 14, wherein ~~characterized in that~~ said coefficient of friction between the primary pulley (2) and the drive belt (10) is lower than a coefficient of friction between the secondary pulley (2) and the drive belt (10) at the location of a radially outermost position of a contact point between therebetween ~~them~~.

16. (currently amended) The continuously variable transmission (1) as claimed in claim 14, wherein ~~characterized in that,~~ at least as seen in a tangential cross section, the primary pulley disks (21, 22), at the location of said radially outermost

position of the contact point between the primary pulley (2) and the drive belt (10), are provided with at least one of a relatively large radius of curvature (R40) ~~and/or~~ and a relatively low surface roughness.

17. (currently amended) The continuously variable transmission (1) as claimed in claim 14, wherein ~~characterized in that~~ the contact angle (λ) for the two pulley disks (21, 22; 31, 32) of a respective pulley (2, 3) has a value which corresponds, and in that for both the primary pulley (λ_p) and the secondary pulley (λ_s) the respective contact angle (λ) in relation to the transmission ratio (R_s/R_p) of the transmission (1) at least substantially corresponds to the contour shown for this parameter as shown below:



~~in the associated figure 12.~~

18. (currently amended) The continuously variable transmission (1) as claimed in claim 14, wherein ~~characterized in~~

~~that~~ the clamping force ratio ($KpKs$) in relation to the transmission ratio (Rs/Rp) of the transmission (1) has an ~~at~~ ~~least~~ approximately constant value.

19. (currently amended) The continuously variable transmission (1) as claimed in claim 1, in combination with a [[A]] motor vehicle having an engine and a load that is to be driven, the transmission located between the engine and the load ~~which a transmission (1) according to claim 1 is incorporated, so~~ that a power which is to be generated by the engine will be being transmitted by the drive belt (10) from the primary pulley (2) to the secondary pulley (3) and ~~being~~ output to the load by the secondary pulley (3).

20. (new) The continuously variable transmission (1) as claimed in claim 1, wherein the contact angle (λ) being adapted in relation to said radial position (Rp , Rs) provides that in all transmission ratios (Rs/Rp) of the transmission (1), the clamping force ratio ($KpKs$) has a value in the range between 1.3 and 1.5.